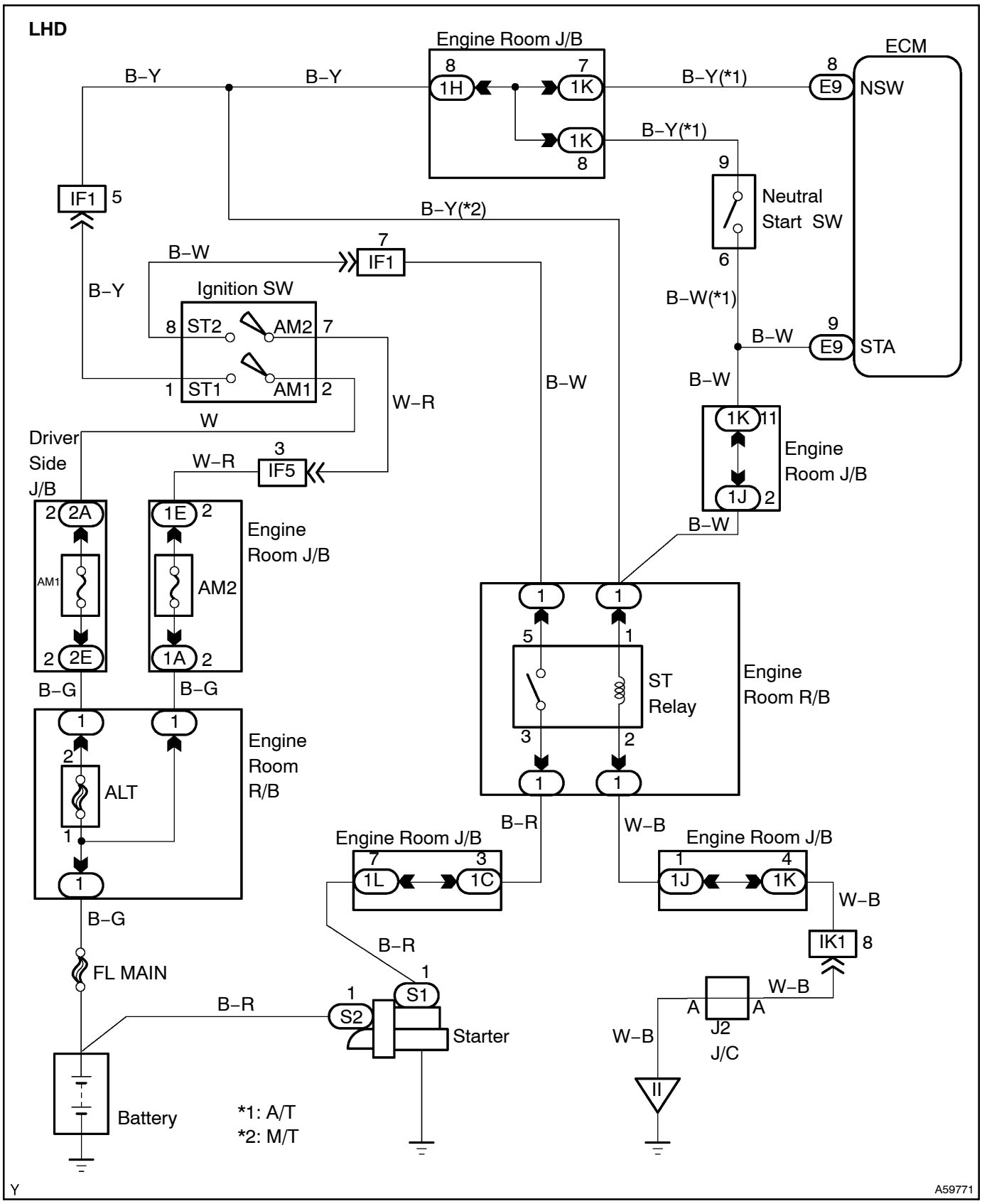
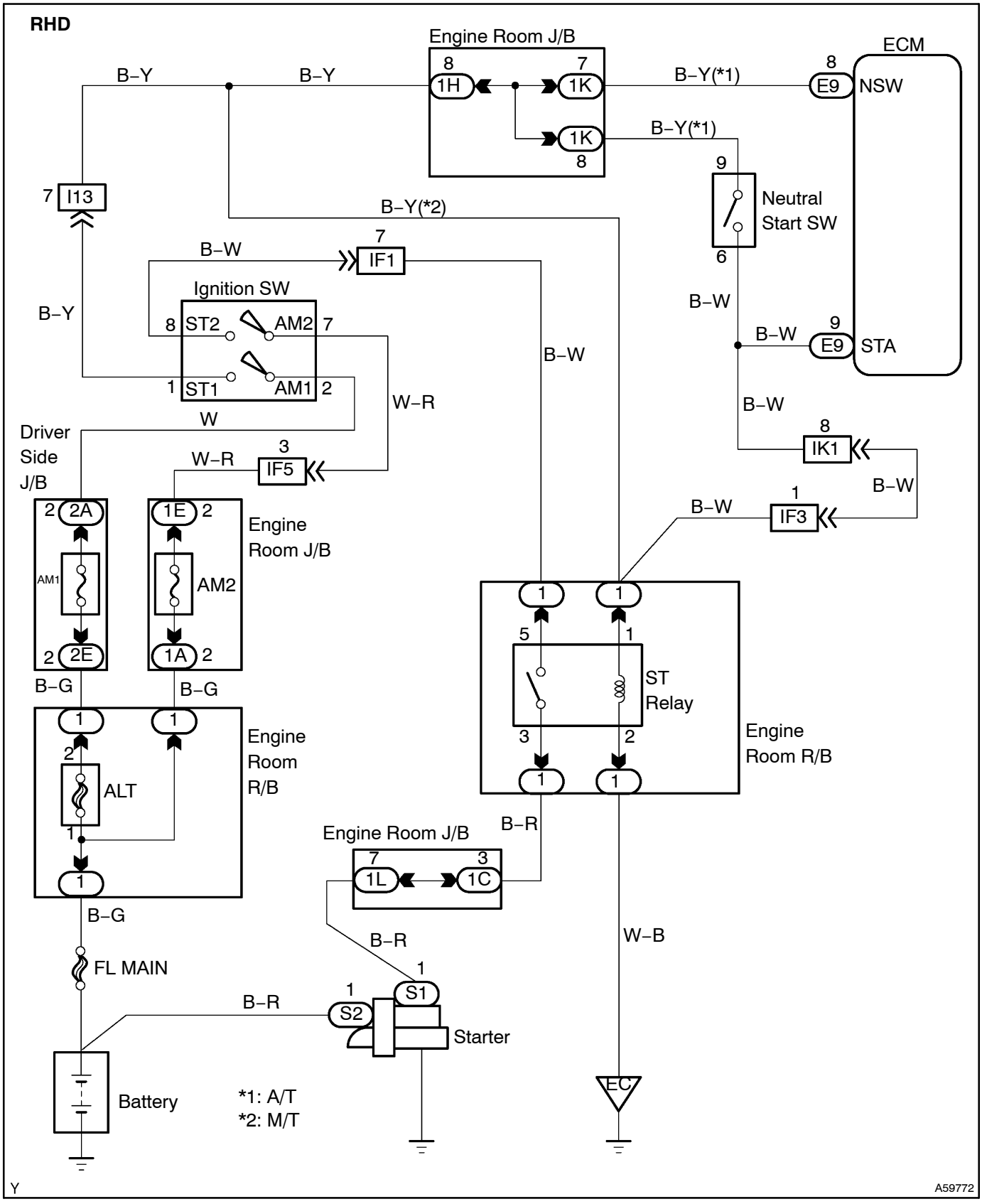
STARTER SIGNAL CIRCUIT

CIRCUIT DESCRIPTION

When the engine is cranked, the intake air flow is slow, so fuel vaporization is poor. A rich mixture is therefore necessary in order to achieve good startability. While the engine is being cranked, the battery voltage is applied to terminal STA of the ECM. The starter signal is mainly used to increase the fuel injection volume for the starting injection control and after–start injection control.

WIRING DIAGRAM




RHD
Engine Room J/B
ECM
B–Y
B–Y
B–Y(*1)
NSW
B–Y(*1)
Neutral
Start SW
B–Y(*2)
B–W
Ignition SW
B–Y
B–W
B–W
STA
W–R
W
Driver
Side
J/B
W–R
B–W
B–W
B–W
Engine
Room J/B
AM1
AM2
B–G
B–G
Engine
Room
R/B
ALT
ST
Relay
Engine
Room R/B
Engine Room J/B
B–R
B–G
B–R
W–B
FL MAIN
B–R
Starter
Battery
*1: A/T
*2: M/T
ECU
Y
A59772

INSPECTION PROCEDURE

HINT:
This diagnostic chart is based on the premise that the engine is cranked normally. If the engine is not cranked, proceed to the problem symptoms table on page 05–23.

When using Hand–held Tester:

1	READ VALUE OF HAND–HELD TESTER(STARTER SIGNAL)

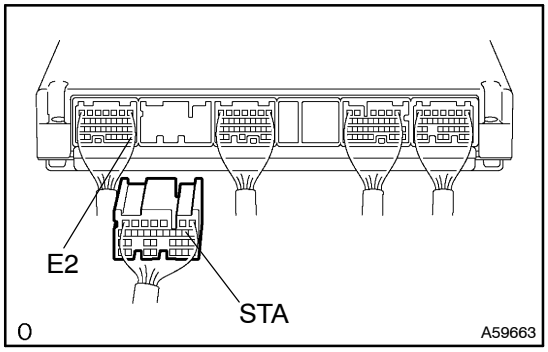
(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester main switch ON.
(c) Read the STA signal on the hand–held tester while the starter is operating.
Result:

Ignition Switch Position	ON	START
STA Signal	OFF	ON

OK → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOM TABLE**

NG

2	CHECK WIRE HARNESS OR CONNECTOR(ECM–STARTER RELAY)



(a) Disconnect the ECM E9 connector.
(b) Remove the starter relay.
(c) Check continuity between the terminals STA of the ECM connector and 1 of the starter relay connector side.
Resistance: 1 Ω or less
(d) Check for short between the terminals STA of the ECM connector and E2 of the ECM connector.
Resistance: 1 MΩ or more

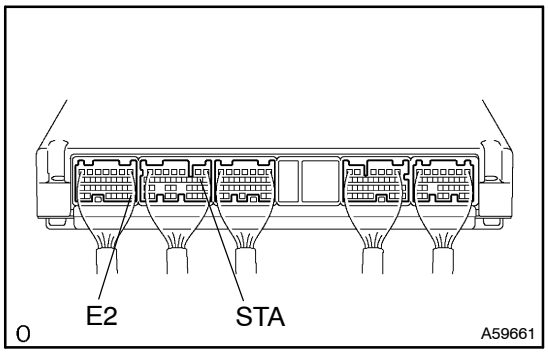
NG → **REPAIR OR REPLACE WIRE HARNESS OR CONNECTOR**

OK

CHECK AND REPLACE ECM

When not using Hand–held Tester:

1	INSPECT ECM(CHECK VOLTAGE)

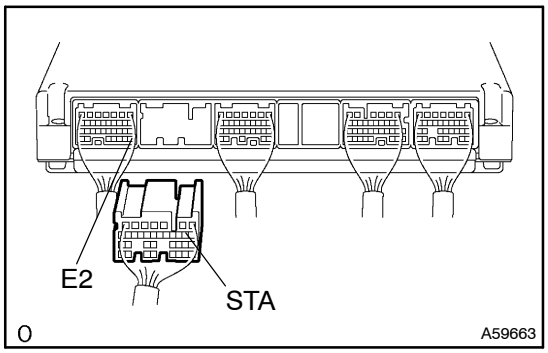


(a) Turn the ignition switch ON.
(b) Measure the voltage between terminal STA of the ECM connector and E2 of the ECM connector, during the engine cranking.
Voltage: 6 V or more

OK → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOM TABLE**

NG

2	CHECK WIRE HARNESS OR CONNECTOR(ECM–STARTER RELAY)



(a) Disconnect the ECM E9 connector.
(b) Remove the starter relay.
(c) Check continuity between the terminals STA of the ECM connector and 1 of the starter relay connector side.
Resistance: 1 Ω or less
(d) Check for short between the terminals STA of the ECM connector and E2 of the ECM connector.
Resistance: 1 MΩ or more

NG → **REPAIR OR REPLACE WIRE HARNESS OR CONNECTOR**

OK

CHECK AND REPLACE ECM